REPORT ON BASELINE SURVEY IN 25 VILLAGES OF LOBAYE AID-OFDA-G-15-00275

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Contents

INTRODUCTION

The project "Restoring food security and health of conflict affected communities and displaced populations in Lobaye prefecture" is aimed at improving the living conditions of the most vulnerable households in particular, and of the communities in general by distributing agricultural kits (seeds and tools) and chicks for small livestock rearing, providing capacity building in cultivation and market gardening techniques, and restoring water facilities. This project is being financed by USAID's Office of Foreign Disaster Assistance (OFDA) and implemented by Tearfund.

This report is the culmination of two weeks of household surveying. It is structured into five main sections. The first section gives the background to the survey and its justification. This is then followed in section two by an explanation of the survey methodology. The third section briefly describes how the survey was conducted. The fourth gives the results of the analysis. The fifth section draws conclusions from the study and, where possible, makes recommendations for resolving the problems identified.

I. BACKGROUND TO AND JUSTIFICATION FOR THE STUDY

1.2- Background and justification

The communes of Lobaye, particularly Mbaïki, Boda and Boganda, have been the theatre of armed intercommunity conflict since 2012, and several thousand people have been forced to leave their homes and seek refuge in the local area and elsewhere.

The conflict has been marked by a number of belligerent acts between the anti-Balaka Christian militia and the Muslim community, resulting in a disturbing humanitarian situation.

The conflict has affected people's livelihoods and has become the primary cause of food insecurity (IPC, July 2013). Armed attacks carried out against the civilian population have been accompanied by:

- The looting of agricultural stocks and seeds from the 2012/13 and 2013/14 harvests.
- The looting and/or destruction of livelihoods (fields, tools, livestock, etc.); and
- The disruption of the country's economic activity as a whole.

1.2-Study objectives

The **overall objective** of the survey was to assess households' capacity to meet their basic needs, both food and non-food, without undermining their health and dignity.

More specifically, this relates to:

- Identifying "at risk" areas in terms of food security
- Defining the characteristics of those groups that are facing food insecurity (taking into account geographical and temporal aspects)
- Defining the different kinds of vulnerable household and vulnerability criteria
- Identifying "at risk" behaviour among the study area's inhabitants with regard to hygiene and sanitation.

II. SURVEY METHODOLOGY

2.1-Target population and sampling frame

The target population was all households located along the route between Mbaïki and Boda and some villages along the route between Boda and Boganda. Households not along one of these routes were therefore not included in this study. The sampling frame comprised a list of all villages along the above routes that are home to displaced persons, returnees or host communities.

2.2-Study areas

The study was conducted in 25 villages/neighbourhoods along the Mbaïki-Boda and Boda-Boganda routes.

2.3-Method of and tools for primary data gathering

A household survey using the direct interview method was used for this evaluation i.e. administering questionnaires to heads of households. This questionnaire covered the following topics:

- Demographic profile of the head of household
- Livelihood
- Income
- Expenditure
- How food is obtained
- Eating habits
- Food consumption
- Water use and storage
- Sanitation
- Hand washing
- General questions, including health
- Infrastructure, including transport and schools
- Security
- Other (food support, migration, issues related to gender-based violence).

2.4- Sampling

The sampling method chosen was that of simple, random two-degree sampling with the primary units being villages hosting displaced persons or returnees, and the secondary units being households (of displaced persons/returnees or host populations). We chose this method for the simple reason that the households' villages and livelihoods are very similar. We used a cluster survey. The villages were considered as clusters of 20 to 21 households each (i.e. 21*17+20*8=517). Households and villages were chosen randomly using rigorous statistical methods.

2.4.1-Choice of villages

Based on our secondary information, we had an idea of the places where it would be appropriate to conduct the evaluation. These were the villages most affected but also neighbouring villages that have welcomed large numbers of affected or displaced persons. The villages were selected from within the communes of Mbaïki, Boda and Boganda, in line with our analysis of the secondary data and as stipulated in the Terms of Reference.

2.4.2- Technique for selecting households

As far as possible, interviews were organised with at least two or three households in each sub-community. The method for household selection was as follows: Standing in the centre of the village, spin a bottle on the ground or toss a pen into the air. Walk in the direction indicated by the bottleneck or pen tip until you reach the edge of the village, counting the houses you pass on the way. Divide this figure by the number of households you want to survey; this gives the interval between houses. For example:

- A questionnaire will be asked to three households
- Walk in the direction indicated and count the houses along your path, in this example 15.
- The interval between the sample houses will thus be 15/3=5 (15 houses counted, 3 sample houses required).
- Choose a figure between 1 and 5 at random; this will be the first house. Continue in the same direction and count five more houses; this will thus be the second household you will question.
- Follow the same procedure to select the third and last household.

2.4.3-Determining the overall sample size

To determine the overall sample size, we took as our basis the results of Lobaye prefecture's humanitarian profile, updated in July 2014 by the Office for the Coordination of Humanitarian Affairs (OCHA).

According to the figures given at the end of this humanitarian operation, *2,625 affected households* between Mbaïki and Boda and *3,050* between Boda and Boganda had benefited from the distributed seeds. In other words, *6,575 affected households along the Mbaïki-Boda and Boda-Boganda routes had received distributed seeds.* Given the lack of up-to-date information, this figure was used to ascertain the number of affected households in the area covered by our study.

In order to meet accuracy (95% confidence interval and 2% margin of error in calculating the envisaged indicators) and representativeness criteria, we chose 10% of all beneficiary households (6,575), i.e. 658 households (approx.). Aware that the Mbaïki-Boda and Boda-Boganda routes cover some 35 villages (25 in the direction Mbaïki-Boda and 10 in the direction Boda-Boganda), the number of households corresponding to the 25 selected villages was **470** (using the rule of three).

This represented the number of households that was to actually be surveyed. However, in order to mitigate the effect of erroneous responses and non-responses, it is also important to anticipate an additional sample. In practice, 10% of the initial sample is added if the survey is based on declaratory responses. Ten percent of 470 is thus 47, and so the size of the final sample was **n=517 households to be surveyed.** These 517 households were divided between the three communes covered by the study, non-proportionally[1] to the number of villages located along the Mbaïki-Boda and Boda-Boganda routes.

2.5- Statistical data processing and file cleaning

The data entry form was produced using Excel 2010 and the data was exported to SPSS to facilitate statistical analysis. Before the analysis, however, the file was cleaned. This consisted of identifying duplicate entries or missing data and checking the internal consistency of responses. Any outlying information was identified and rectified.

[1] *The way in which households along the two routes were divided was non-proportional as Tearfund-CAR's ECHO programme is already working in most of the villages along the Boda-Boganda route.*

Difficulties encountered

Some of the realities in the field were not favourable:

- Poor availability of the population, as work in the fields often takes up the whole day.
- The time devoted to the evaluation (two weeks of data gathering is completely inadequate given the state of the roads) was insufficient for the objectives.

III. CONDUCTING THE STUDY

3.1-Interviewers' training

The 10 selected interviewers received two days of in-depth training (November 27th and 28th 2015) before proceeding to the field. This was primarily to harmonise survey procedures and to prevent the interviewers from interpreting the survey definitions, concepts and objectives differently, thus minimising any distortions that might be caused by them. The training was provided by a qualified instructor (Tearfund's Monitoring, Evaluation, Accountability and Learning Officer), who was familiar with the aims and objectives of the survey.

3.2-Survey implementation and supervision

Data gathering proper took place from November 29th to December 11th 2015 among 517 households in 25 villages. Supervision was provided in line with the "close supervision" technique; the MEAL Officer supervised the interviewers in the field and resolved any misunderstandings among them or the respondents.

IV. RESULTS ANALYSIS

4.1.1-Description of the selected socio-demographic variables

The objective of this analysis is to explore the variables that were selected. This univariate analysis of the socio-demographic characteristics of respondents also enables data to be prepared that can subsequently be used in the bivariate analyses.

- An analysis of the data on respondents' socio-demographic characteristics (Table 2) indicates the following:
- Almost 70% of households surveyed were headed by men (67.9%) and three out of 10 (32.1%) by women, i.e. a gender ratio of 47 women to every 100 men.
- In terms of age, more than half the heads of household surveyed (53.6%) were between the ages of 25 and 49, and one-third (33.1%) were over the age of 50.
- Christianity was the prevalent religion: over 90% of respondents were Christian (48.4% Catholic and 42.1% Protestant). Islam was the second most prevalent.
- In terms of household status, host households came top (83.9%) followed by displaced persons/returnees (16.1%).
- Most of the households surveyed gave agriculture as their main occupation (86.5%).
- By commune, it can be seen that almost half of all respondents were from Boda (49.3%) and less than 5% from Boganda (3.1%). An insignificant variation was, however, noted between the proportion of households surveyed in Boda and in Mbaïki.
- In terms of level of education, more than half of those surveyed had a primary school education (54.9%) and nearly 20% secondary (18.0%). Very few had gone on to higher education, however (1.4%).
- In terms of marital status, it was noted that almost eight out of every 10 respondents surveyed (76.4%) were married or living with their partner; widows/widowers represented 10.6% and those who were separated/divorced or had never married were in a minority, representing 9.9% and 3.1% respectively

4.1.2-Household size

Household size is clearly a determining factor in evaluating food security. According to the results of several studies, food insecurity and household size are often statistically linked. During the survey, heads of households were asked about the size of their household. After data processing, we calculated the average household size using SPSS software, and the results can be seen in the following table. The figures in Table 3 show that the average size of the households surveyed was 6.6.

Table 3: Average size of households surveyed

No.	Minimum household size	Average household size	Maximum household size
517	1	6.6	13

4.2 Food security analysis

Household food security was analysed from a number of different angles, including access to food, food consumption and eating habits.

4.2.1- Access to food

For this study, access to food is understood specifically in terms of livelihoods, food sources, and sources of income and expenditure.

4.2.1.1-Livelihoods

Put simply, *livelihood can be taken to mean any activity that ensure someone's existence.* In the case of this study, we will focus only on activities practised by the community under normal conditions, agriculture and the different sources of aid received by the community.

a) Activities practised by the community under normal conditions

During the survey, the heads of household were asked what the main activities practised in their community were generally, under normal conditions.

An analysis of the data in Table 4 thus shows that the three main activities, in decreasing order, are: agriculture (92.8%), mining activities (30.8%) and livestock rearing (28.2%).

Table 4: Breakdown (in %) of main activities practised by the communities surveyed, under normal conditions

	MAIN ACTIVITIES PRACTISED BY THE COMMUNITIES UNDER NORMAL CONDITIONS						
CLASSIFICATION	Agriculture	Livestock rearing	Mining activities	Fishing	Gathering	Handicrafts	Other
No	7.2	71.8	69.2	80.9	77.9	77.9	81.0
Yes	92.8	28.2	30.8	19.1	22.1	22.1	19.0
Number of households	517	517	517	517	517	517	517

b) Agriculture

Agriculture is one of the main activities undertaken by the people of Lobaye, as can be seen from Table 4 (above). In this section, however, we are going to examine in more detail the practice of growing cash crops (for sale) and subsistence crops (for own consumption) in order to try and estimate the number of months of food self-sufficiency these households have each year, which is one of the main indicators for this study.

Respondents were asked the following question: "Do you practise cash cropping (i.e. for sale) or subsistence agriculture (i.e. for your own consumption)?"

According to the results of Table 5, it seems that a little over half of all respondents (50.9%) practise both cash cropping and subsistence agriculture and that over 40% (42.7%) practise only subsistence agriculture.

Table 5: Breakdown (in %) of households surveyed by whether they practise cash cropping or subsistence agriculture

PRACTICE OF CASH CROPPING OR SUBSISTENCE AGRICULTURE	Number of households	Percentage
Neither	11	2.1
Cash cropping	22	4.3
Subsistence agriculture	221	42.7
Cash cropping and subsistence agriculture	263	50.9
Total	517	100.0

Respondents who stated that they practised either cash cropping and subsistence agriculture or only subsistence agriculture were then asked the following question: "For how long, on average, did your produce from the last agricultural season (2014/15) cover your food needs?" This question was put to 509 households out of 517.

According to the calculation (base: 509 households), done using SPSS, it seems that the produce from the last agricultural season covered their food needs for an average of 3.4 months (Table 6).

Table 6: Number of months of food self-sufficiency

Minimum	Average number of months of food self-sufficiency	Maximum
0	3.44	11

c) Sources of aid received by the communities

The heads of household were asked from where their community had received assistance over the last few years. An analysis of responses shows that most aid was provided by NGOs. In fact, almost 80% of respondents bore witness to this (Table 7).

Table 7: Breakdown of sources of aid received by the communities surveyed

Source of aid received	Number of households	Percentage
Through an NGO	413	79.9
Through a religious association	61	11.8
Through a politician	40	7.7
Other	3	0.6
Total	**517**	**100.0**

4.2.1.2- Sources of income

Income, and the purchasing power this gives, are determining factors in providing access to food and thus ensuring food security. It is important to consider all sources of income that could have an effect on food security.

During the survey, heads of households were asked what their main sources of income were under normal conditions. An analysis of the responses (Table 8) shows that the sample population had three primary sources of income: from the sale of food produce and cash crops (89.9%), from the sale of wild foods (33.3%) and from handicrafts (33.3%).

Table 8: Breakdown of households surveyed by main sources of income, under normal conditions

MAIN SOURCES OF INCOME OF HOUSEHOLDS SURVEYED, UNDER NORMAL CONDITIONS							
CLASSIFICATION	RE1A	RE1E	RE1F	RE1D	RE1B	RE1C	RE1G
No	10.1	66.7	66.7	72.3	78.1	88.0	98.5
Yes	89.9	33.3	33.3	27.7	21.9	12.0	1.5
Number of households	**517**	**517**	**517**	**517**	**517**	**517**	**517**

NB: *RE1A = Sale of food produce and cash crops; RE1E = Sale of wild foods (gathering etc.); RE1F = Handicrafts; RE1D = Trade (transport, buying/selling); RE1B = Sale of livestock; RE1C = Employment (agriculture, construction) ; RE1G = Gift*

Heads of household were then asked if there had been any recent changes in their income.

The data analysis in Table 9 demonstrates that nearly eight out of every 10 respondents (78.3%) affirmed there had been recent changes in their sources of income. These changes may be explained in part by the fact that several families have had to flee the villages where they were farming and also by the fact that the resident population has had limited access to their fields since the troubles.

It should be noted that information on changes in source of income provided sufficient insight into household economies without the need to quantify the actual levels of income.

Table 9: Breakdown of responses in terms of changes in income

RECENT CHANGE IN HOUSEHOLD INCOME	Number of households	Percentage
No	112	21.7
Yes	405	78.3
Total	517	100.0

4.2.1.3-Expenditure

Respondents were asked "What are the main annual outgoings of your household under normal conditions?" in order to ascertain the main areas of expenditure of the households surveyed.

It can be seen from Table 10 that expenditure on food came top: nearly 90% of respondents (89.9%) mentioned it. Next came expenditure on clothing/household products (soap, etc.), noted by more than 80% of respondents (83.0%), followed by health (appointments and medication for people, animals).

Table 10: Breakdown (in %) of main expenditure of households surveyed, under normal conditions

MAIN ANNUAL EXPENDITURE OF HOUSEHOLDS SURVEYED, UNDER NORMAL CONDITIONS							
CLASSIFICATION	DE1A	DE1C	DE1D	DE1F	DE1G	DE1B	DE1E
No	10.1	17.0	51.8	73.1	87.4	95.4	95.7
Yes	89.9	83.0	48.2	26.9	12.6	4.6	4.3
Number of households	**517**	**517**	**517**	**517**	**517**	**517**	**517**

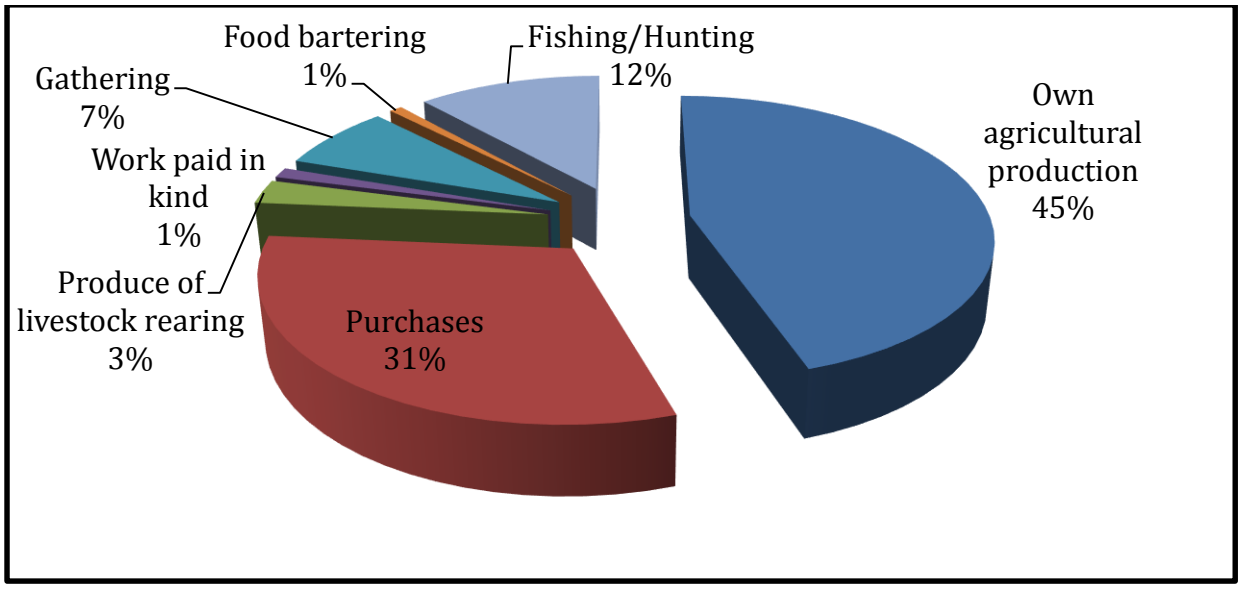
NB: DE1A = Food; DE1C = Clothing/household products (soap, etc.); DE1D = Health (appointments and medication for people, animals) ; DE1F = School costs; DE1G = Other (land rental, seeds, tools, alcohol, recreation); DE1B = Firewood/charcoal/petrol; DE1E = Housing (rental).

4.2.1.4- Food sources

Respondents were asked the following question to ascertain their sources of food: "Under normal conditions, how does your house obtain its food?"

The response to this question revealed that agricultural production came first (45%), followed by purchases (31%) and then fishing/hunting (12%), as can be seen from Figure 1 below.

Figure 1: Breakdown of main sources of food of households surveyed



Heads of household were then asked if there had been any recent changes in their food sources.

Table 11 shows that almost eight out of every 10 respondents (75.6%) stated that there had been recent changes in their food sources.

Table 11: Breakdown of responses in terms of changes in their food sources

CHANGES IN FOOD SOURCES	Number of households	Percentage
No	126	24.4
Yes	391	75.6
Total	**517**	**100.0**

It should be noted that the main source of food is their own production. In other words, the risk that the Central African conflict is preventing farmers from accessing their fields is a serious one.

4.2.2-Eating habits

Two questions were asked to ascertain household food security in terms of eating habits. These were: "What is the normal diet of your family under normal conditions?" and "What is your current diet at the time of the survey?"

Figures 2 and 3 show that, under normal conditions, the diet of the communities covered by this study is made up of 29% vegetables and 12% wild produce but that, at the time of this survey, these proportions were 80% and 14% respectively. This indicates a change in diet in relation to gathering, and suggests a risk of deficiencies.

Figure 2: Breakdown of household diets under normal conditions

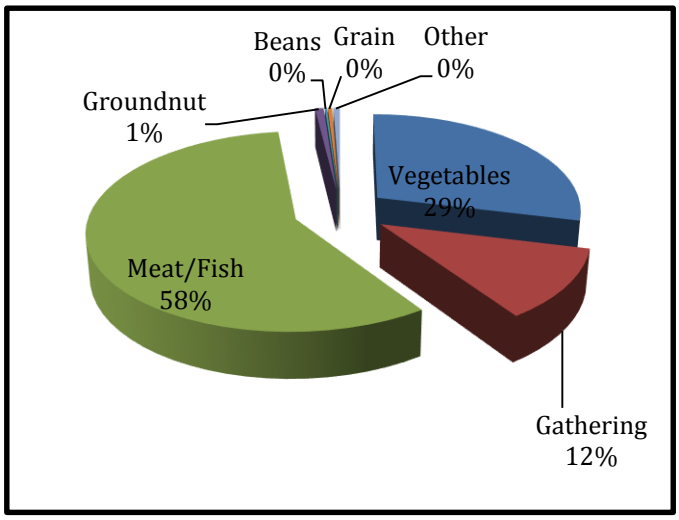
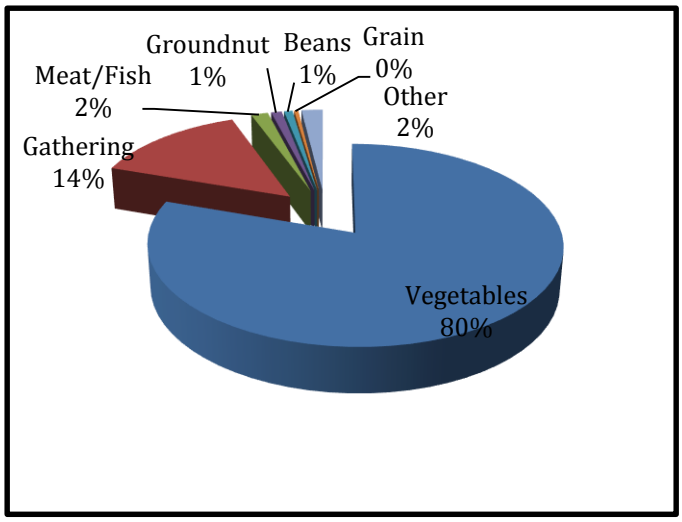


Figure 3: Breakdown of household diets at the time of the survey



4.2.3- Food consumption

Household food consumption can be ascertained by calculating a score based on how many times each week a list of food products is consumed.

4.2.3.1-Definition and calculation of the Food Consumption Score

Households were asked about their consumption of 21 different foods using the following question: "Over the last seven days, on how many days did your household (or did you) eat.....?" The 21 food stuffs were classified into eight food groups: cereals and tubers; pulses (legumes); vegetables; fruits; meat and fish; milk; sugar and oil. Each of these groups was given a weighting and the weighted sum of consumption frequencies gives the Food Consumption Score (FCS).

This indicator describes the food security situation at a particular time T, i.e. during the survey. It does not therefore provide a quantified estimate of food consumption and does not capture the effects on consumption of either seasonality or the intra-household distribution of food.

4.2.3.2- FCS scale

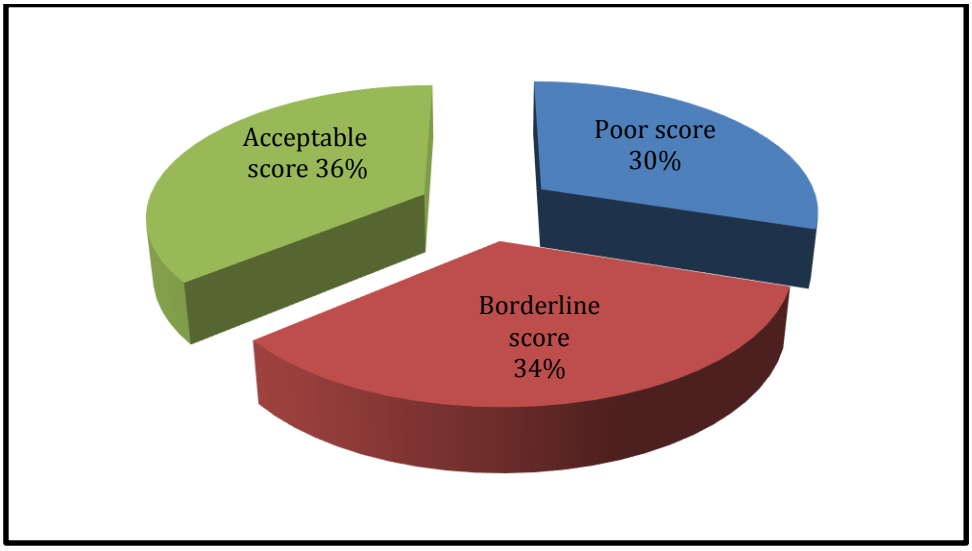
The calculated scores are transferred to a scale with a maximum possible value of 112. This method requires thresholds to be set for each of the food consumption brackets. Given the amount of cassava consumed by Lobaye households, and in line with the recommendations of the WFP's food security assessment handbook, the FCS thresholds for the consumption brackets have been set at 28 and 42.

Table 11a: Explanatory values for the Food Consumption Score

FCS interval	Consumption bracket
FCS ≤28	Poor food consumption
28.5≤FCS≤42	Borderline food consumption
FCS>42	Acceptable food consumption

An analysis of the data gathered shows that 36% of households surveyed have an acceptable level of food consumption, while 30% have a poor level (cf. Figure 4).

Figure 4: Breakdown of households surveyed by food consumption bracket



The most frequently consumed food stuffs in the study areas include: a wild vegetable known locally as 'coco', pigweed, local bitter aubergine, cassava, and leaves. Powdered milk and meat are rare. At a certain time of the year, the population resorts to hunting and gathering in the forest (caterpillars, snails, squirrels, etc.). Vegetables are consumed throughout the year in the form of fresh vegetables or pulses.

In order to establish whether there is a link between the FCS and the socio-demographic characteristics of respondents, we will now conduct a bivariate analysis with the help of contingency tables.

4.2.3.3-Cross-referencing of FCS brackets (scale) with socio-demographic characteristics

a- Food consumption by gender

An analysis of the survey data shows that more female-headed households have an acceptable FCS (38.0%) than male-headed ones (35.0%). However, a higher proportion of male-headed households (38.7%) are in the borderline food consumption bracket than female-headed ones (24.0%).

b-Food consumption by age

An analysis of the data shows that households with heads aged 50 years or above are more likely to have an acceptable food consumption (40.3%) than those with a head of household aged 25 to 49. It seems that age has a positive influence on a household's FCS. In fact, households with heads aged between 25 and 49 have a higher probability of having poor food consumption (36.2%) than those with household heads between the ages of 15 and 24.

c-Food consumption at displaced sites

More households headed by Christians achieved an acceptable FCS (36.4% of Catholics and 38.4% of Protestants) than those headed by a Muslim (17.0%). The conclusions of the 2015 SMART survey on Chronic Malnutrition and Low Body Weight show that the rates at Boda sites are above the critical (47.2%) and severity (26.6%) thresholds respectively (SMART Report, UNICEF 2015). While the average number of meals per day is two in all households surveyed, the reference survey organised by Tearfund reveals that there is no difference between children and adults with regard to meals. The same survey

indicates that displaced and returnee households are most exposed to food security: only 10% of displaced/returnee households surveyed were able to eat twice a day. An analysis of the figures shows that the proportion of host community households achieving an acceptable FCS (37.3%) is higher than that of displaced or returnee households (28.9%). However, there is no significant difference in the borderline food consumption bracket for displaced/returnee or host community households.

Eating habits based on the consumption of foods that are low in protein, micronutrients and vitamins, combined with a lack of access to sufficient food in most households surveyed is likely to explain the high levels of malnutrition in the area.

UNICEF's 2015 SMART survey at four sites (MINUSCA, Muslim Enclave, Saint Michel and areas around the Evêché site) indicates that these sites have proportions of children under the age of five that are above the critical threshold for chronic malnutrition and the severity threshold for low body weight. The prevalence of chronic malnutrition across all sites surveyed is 38.8%, i.e. above the critical threshold defined by WHO (30%). Of the sites surveyed, seven present a prevalence above the critical threshold (30%). These are Evêché, neighbourhoods with host families, Sangaris, MINUSCA, the Muslim Enclave and Saint Michel.

d- Food consumption by commune

The level of food consumption by commune is variable. It can be seen from the survey that more than 35% of households surveyed in the communes of Boda (36.0%) and Mbaïki (36.2%) had an acceptable level of food consumption. The difference in consumption between households surveyed in Boda and Mbaïki was insignificant. In contrast, it should be noted that the households surveyed in Boda and Boganda communes are more likely to be in the poor food consumption bracket than those surveyed in Mbaïki. This is probably due, in part, to the more severe and ongoing impact of the crisis in Boda (e.g.: market problems, continuing high prices for food, poor production), and Boganda than in Mbaïki commune, to cultural habits, and the fact that the conditions for return are still not favourable, etc.

The level of food consumption is also likely to be dependent on level of education. Households headed by people with no education have a higher probability of having poor food consumption (45.9%) than those with at least a primary school education. The lower the level of education, the greater the risk of falling into the poor food consumption bracket. There is also a positive association between a household falling into the acceptable food consumption bracket and level of education. By way of example: 37.3% of respondents with primary education and 42.9% of those with secondary education have an acceptable level of food consumption.

In order to verify that the association noted within our sample is not due simply to chance, a Chi-2 test was conducted. The results of the Chi-2 test confirmed the presence of a statistically significant relationship between the variables "sex of head of household" and "level of education", and food consumption. The values P1 and P2 for the variables of sex of head of household and level of education, respectively, are far lower than 5%, according to Table 12.

Table 12: Value of the CHI-2 test

Classification	Food consumption scale
Sex of head of household	P =0.002; Cramer's V = 0.156
Level of education	P =0.000; Cramer's V = 0.177

This shows that there is a desperate need for training in nutrition for those families most at risk of food insecurity in order to bring about changes in food practices and prevent malnutrition in the project's area of intervention.

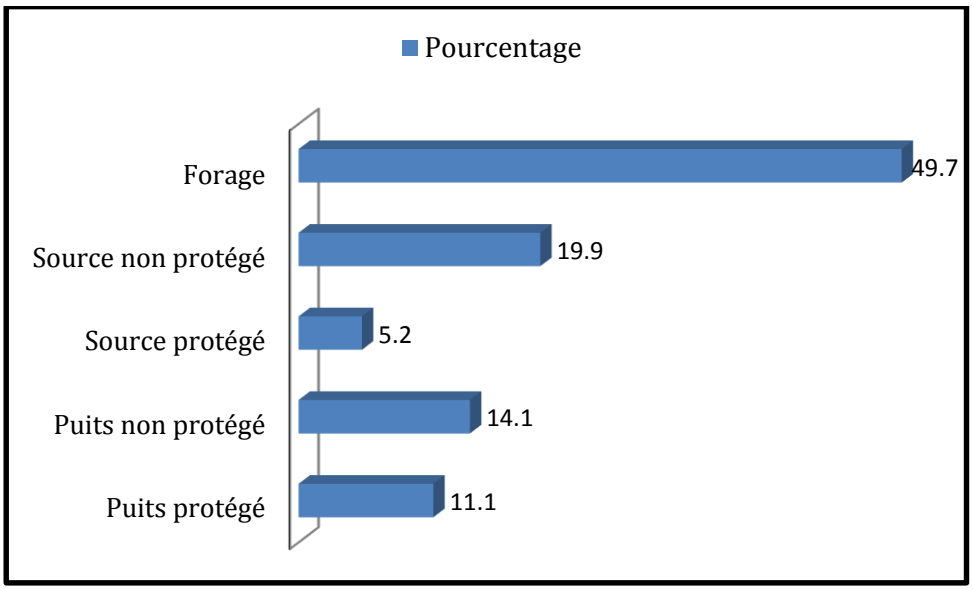
4.3. WATER, HYYGIENE AND SANITATION

4.3.1. USE OF WATER

4.3.1.1. Main source of drinking water among households surveyed

The results of the survey in the project intervention area for AID-OFDA-G-15-00275 demonstrate that the people obtain water primarily from boreholes, sources and traditional wells. However, it can be seen that 34% of the population surveyed are using water from unprotected sources and wells.

Figure 5: Main source of drinking water



Key: Blue = Percentage
Top to bottom: Borehole, Unprotected source, protected source, unprotected well, protected well.

A technical evaluation of water facilities in the project's area of intervention shows that, of 60 water points visited, more than half were not protected and only eight water committees were still operational following the crisis.

4.3.1.2. Amount of water drawn per household per day (average)

Respondents were asked the following question: "How much water is drawn per household per day?" Each respondent pointed to the containers that their household generally uses to fetch water and stated the number of trips made every day by their household members. On the basis of this information, the interviewers tried to estimate the amount of water drawn by the households each day. After data processing, the calculation done using SPSS shows that nearly 90 litres of water (89.5 litres on average) are drawn by the surveyed households each day, from all different sources, for

their cooking, drinking and cleaning needs. Given that the average size of the households surveyed is 6.6, it can be deduced that an average of 13.6 litres of water is used per person per day. It should be noted that this estimate has been made on the basis of all sources of water supply.

4.3.1.3. Time taken to fetch water

Respondents were asked the following question: "How long does it take to draw water, including the return journey?" It emerged that the overall time taken to fetch water was an average of 36.3 minutes. This shows that water coverage is still poor and that the supply of clean drinking water remains a basic need for these communities.

4.3.1.4. Storage of drinking water

During the study, the interviewers were asked to check the containers used for transporting and storing water in order to see if they were covered and/or clean. It can be seen from these observations that 62% of households surveyed use covered containers to carry their water (Figure 6). Observations further revealed, however, that only 38% of households use clean containers to store it (Figure 7).

Figure 6: Breakdown of households surveyed by whether they use covered containers for water storage

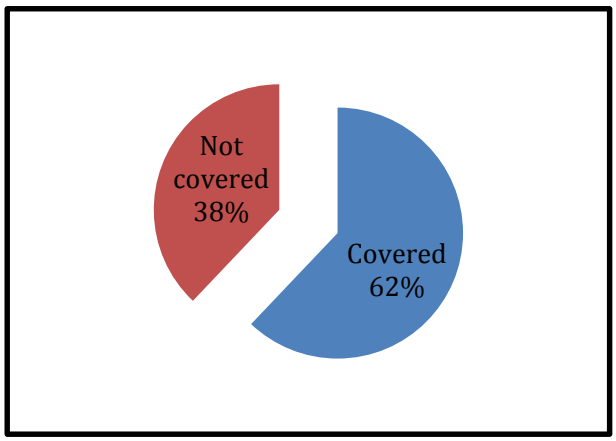
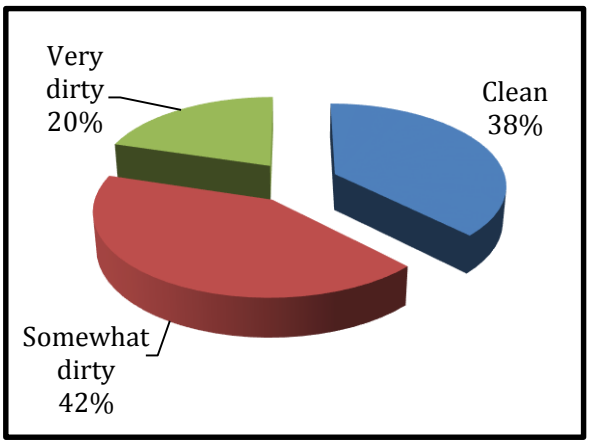


Figure 7: Breakdown of households surveyed by cleanliness of water storage containers



4.3.1.5. Method of treating drinking water

Most of the households surveyed did not treat their drinking water. The results of the data analysis show that more than 80% of households surveyed (81.6%) are not treating their drinking water. The main method for treating water is filtering (11.0%). A small proportion of households have access to bleach (bought in small 150g sachets at the local market or in the village) to disinfect their water (see following table).

Table 13: Breakdown of households surveyed by main method of drinking water treatment

Main method of treating drinking water	Number of households	Percentage
Disinfection (bleach)	30	5.8
Boiling	4	0.8
Filter	57	11.0
None	422	81.6
Other	4	0.8
Total	**517**	**100.0**

4.3.2. SANITATION

4.3.2.1. Hygiene and sanitation infrastructure

Figures 8 and 9 show access to latrines and the extent to which they are used, respectively. Only 81.% of households surveyed have access to latrines (Figure 8), with 74.9% actually using them (Figure 9).

It can thus be implicitly concluded that some people in these communities are continuing to defecate in the open air.

Awareness raising sessions should therefore be envisaged in order to eradicate this open defecation in the villages. Cultural habits and a lack of tools for digging are likely to be major obstacles to the use of family latrines among the surveyed population. The use of latrines is one of the most effective ways of reducing the transmission of diarrhoeal disease, which is the number one cause of mortality in children under five.

Figure 8: Breakdown of households by whether they have access to a latrine or not

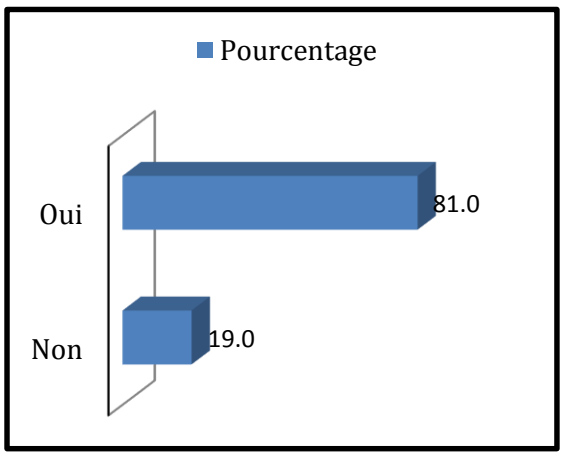
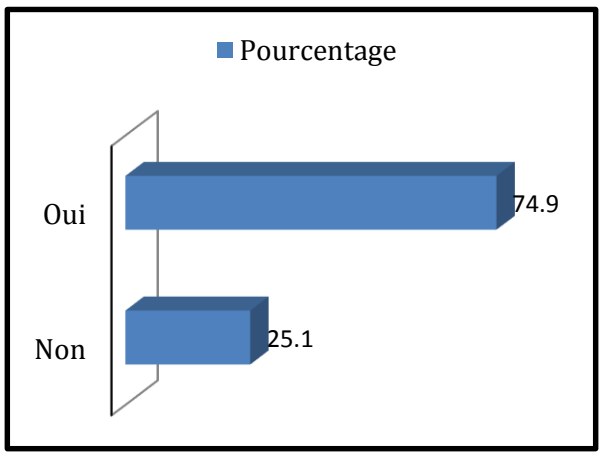


Figure 9: Breakdown of households by whether they are actually using a latrine or not



Key : Blue=percentage. Top to bottom : Yes, No.

4.3.2.2. Management of young children's excrement

The following question was asked: "How do you dispose of the excrement of young children (under the age of three)?". It can be seen from Table 14 that more than 60% of the households surveyed deal hygienically with the excrement of young children while 20% dispose of it somewhere in the open.

Table 14: Breakdown of households surveyed by method of disposing of young children's excrement

Method of disposing of young children's excrement	Number of households	Percentage
Leave it where it is	11	2.2
Throw it away outside	100	19.3
Throw it down the latrine	348	67.3
Bury it in the ground	26	5.0
Throw it on a rubbish heap	13	2.5
Throw it down the waste pit	4	0.8
Other	15	2.9
Total	**517**	**100.0**

It emerges from the above that nearly 22% of households surveyed have poor practices for dealing with their children's excrement.

4.3.3. HYGIENE KNOWLEDGE AND PRACTICE

4.3.3.1. Knowledge of hand washing

Hand washing with soap is a key practice enabling the transmission of diarrhoeal disease to be significantly reduced. The following question was asked: "When do you or the members of your household wash your hands?" It can be seen from the responses in Table 15 that "before eating" is very well-known, cited by a majority of those surveyed (97.9%), followed by "after work" and then "after defecation".

Table 15: Breakdown of interviewees by knowledge of key hand washing times.

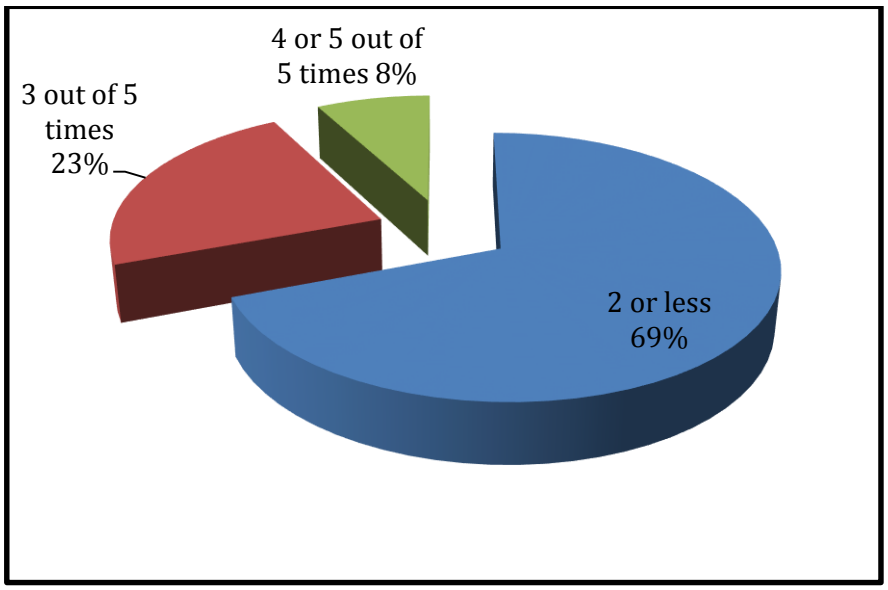
Classification	A	B	C	D	E
Yes	97.9	45.3	46.0	7.2	13.2
No	2.1	54.7	54.0	92.8	86.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Base N = 517

NB: A = Before eating; B = After defecating; C = After work; D = Before breastfeeding; E = Before preparing food

The interviewers were also asked to calculate the number of correct responses given by each respondent in terms of key hand washing moments. It can be seen from Figure 10 that 23% of respondents were aware of three of the five critical hand washing times.

Figure 10: Breakdown of respondents by number of key hand washing times known



4.3.3.2. Households with soap and water at hand washing stations

During the survey, the interviewers were asked to observe the presence of water and soap at the hand washing station, if the household had one.

Of the 517 households surveyed, only 140 had a place to wash their hands. It can be seen from Table 16 that 30% of households with a hand washing station had soap and water there.

Table 16: Breakdown of households surveyed by whether they have soap and water at the hand washing station

SOAP AND WATER?	Number of households	Percentage
No	98	70.0
Yes	42	30.0
Total	**140**	**100.0**

70% of households had neither soap nor water. This confirms the dual problem of access to hygiene products and local practice, issues that are exacerbating the hygiene and sanitation situation of rural households.

Conclusions and Recommendations

The survey took place during harvest time, at the end of the 2015 rainy season. After analysing the results, the following conclusions can be drawn:

- The Boda and Boganda zones remain priority areas for humanitarian aid, with 37% of the surveyed population at risk of food insecurity. Returnees and displaced persons are more at risk, with 38.6% of this group having a poor food consumption score.
- The three main activities, in decreasing order, are agriculture (92.8%), mining (30.8%) and livestock rearing (28.2%). However, mining and livestock rearing have been seriously affected by the crisis. Households whose incomes are based on these two activities have lost all or part of their incomes and are relying on aid to survive (particularly displaced persons). Nearly eight out of every 10 respondents (78.3%) stated that they had made recent changes to their sources of income in order to survive.
- A little more than half the population surveyed are practising subsistence agriculture.
- Agricultural production remains low and provides only 3.4 months of food self-sufficiency a year. Agriculture is still the most important source of food for households (45%), followed by purchases (31%) and then fishing/hunting (12%). The most vulnerable households are returnees, as they are still having difficulty in resettling in their villages of origin and require support. They have the lowest consumption scores and malnutrition at displaced persons' sites in Boda is high (GAM=9.6%; MAM= 6.2%; and SAM=2.2%) (UNICEF 2015)
- Eating habits and practices are poor. The availability of food remains a problem. Female-headed households are in a good position in terms of FCS.
- The survey notes that normal food behaviour had changed at the time of the survey, with consumption of vegetables increasing from 29% during the hunger gap period (April to September) to 80% at the time of the survey, outside of the hunger gap, and gathering increasing from 12% during the hunger gap to 14% at the time of the survey (October). The most frequently consumed food stuffs in the study areas include: a wild vegetable known locally as 'coco', pigweed, local bitter aubergine, cassava, and leaves. Powdered milk and meat are rare. At a certain time of the year, the population resorts to hunting and gathering in the forest (caterpillars, snails, squirrels, etc.). Vegetables are consumed throughout the year in the form of fresh vegetables or pulses.
- The survey has revealed significant nutritional training needs for those families at greatest risk of food insecurity in order to help bring about a change in food practices and prevent malnutrition in the project's area of intervention.
- Access to drinking water is limited. Water coverage is still poor and the provision of clean drinking water remains a basic need for the communities in question. The average amount of water drawn per household from all accessible sources is estimated at approximately 90 litres per day for drinking, cooking and cleaning needs. The time taken to fetch water, including the return journey, has been estimated at an average of 36.3 minutes.
- Most of the households surveyed did not treat their drinking water.
- The main method used for treating drinking water is filtering. Even this technique, however, remains little used. A few people have access to bleach with which to disinfect water but this is financially out of the reach of vulnerable families.
- Most of the households surveyed deal hygienically with the excrement of young children (60%). However, almost 22% of the population continue to practise poor hygiene, with open-

air defecation, inappropriate disposal of excrement, etc. Awareness raising sessions therefore need to be considered in order to eradicate open defecation in the villages. Cultural habits and a lack of digging tools are likely to be major obstacles to the use of family latrines. Their use would reduce the risk of diarrhoeal disease and help prevent malnutrition among children under five and pregnant/breastfeeding women.

- Most people have little awareness of the critical hand washing times. Less than 25% of the population surveyed was able to correctly identify three of the five critical hand washing times.
- Access to hygiene infrastructure remains very poor among the population surveyed. Only 30% have a wash station near the latrine and, even then, their use is hindered by the absence of soap and stored water, only 30% of those that have a station have soap and water (or ash) present. This is all the more so for vulnerable groups (returnees, displaced persons...) who have to spread what little income they have across food and other basic needs.

Baseline Value and Target Table

Food Security and Agriculture

Indicators		Baseline	Target
Sub-Sector 1 : Improving Agricultural Production and Food Security			
Indicator 1	Projected increase in number of months of food self-sufficiency due to distributed seed systems/agricultural inputs for beneficiary households.	3.4	4
Indicator 2	Number of people benefiting from seed systems/agricultural input activities, by sex.	0	Total: 11,250
		0	Male: 5,602
		0	Female: 5,648
Indicator 3	Percentage of vegetable seed beneficiary households cultivating vegetable gardens by the end of the project period	0	1,600
Indicator 4	% of the target population who achieve Acceptable Food Consumption Score (FCS)	36%	65%
Sub-Sector 2 : Livestock			
Indicator 1	Number of people benefiting from Livestock Activities by sex	0	2,500
		0	M: 1,245
		0	F: 1,255
Indicator 2	Number of animals benefitting from or affected by livestock activities	0	2,000

Water Supply And Sanitation

Indicators		Baseline	Target
Sub-Sector 1 : *Sanitation Infrastructure*			
Indicator 1	Number of people directly benefiting from the sanitation infrastructure program	0	22,201
Indicator 2	S1: Number of households with no evidence of faeces in the living area	2,658	4,408
Indicator 3	S4: Number of clean HH latrines completed.	0	1,400
Indicator 4	S5: Number of people per usable latrine	To be assessed next quarter	5
Indicator 5	S6: Number of hand washing facilities in use	427	4,408
Sub-Sector 2 : *Hygiene Promotion*			
Indicator 1	Number of people receiving direct hygiene promotion (excluding mass media campaigns and without double-counting)	0	28,000
Indicator 2	HP1: Number of respondents who know 3 of 5 critical moments to wash hands	5,282	21,000
		M: 2,630	M: 10,458
		F: 2,652	F: 10,542
Indicator 3	HP2: Number of HH with soap and water (or ash) at a hand-washing location	42	1,400
Indicator 4	HP3: Number of households who store their drinking water safely in clean containers (Safe Water Handling)	541	4,200
Indicator 5	HP4: Number of HH drinking water supplies with 0 fecal coli forms per 100 mL sample	0	4,900
Indicator 6	HP7: Number of village water user committees active at least 3 months after training	0F	28
Indicator 7	HP8: Number of water points that are clean and protected from contamination	0	40
Sub-Sector 3 : *Water Supply Infrastructure*			
Indicator 1	Number of people directly benefiting from the water supply programme	0	21,000

Indicator 2	WS1: Average litres/person/day collected from all sources for drinking, cooking and hygiene	13.5	15.0
Indicator 3	WS2: Estimated water supplied per beneficiary in litres per person per day	To be assessed next quarter	15
Indicator 4	WS3: Number of test results with 0 faecal coli forms per 100 mL sample	0	270
Indicator 5	WS5: Number of HH collecting water for drinking, cooking and hygiene from improved water sources	0	4,200
Indicator 6	WS6: Number of water points which are actively utilizing their Water Safety Plan	0	28